IPW

Docket No.: 043888-0518 **PATENT**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	:	Customer Number: 53080
Masaaki KURANUKI, et al.	:	Confirmation Number: 7824
Application No.: 10/593,281	:	Group Art Unit: 1745
Filed: September 18, 2006	:	Examiner: Not Yet Assigned

For: POWER SYSTEM AND MANAGEMENT METHOD THEREOF

REQUEST FOR CORRECTED FILING RECEIPT

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Attached is a copy of the Filing Receipt received from the U.S. Patent and Trademark Office in the above-referenced application. It is noted that **the number of claims listed on the official filing receipt is incorrect. Attached is a copy of the Preliminary Amendment cancelling claims 4 and 5, which evidences that the number of claims should now be: 2 independent claims and 16 dependent claims totaling 18 claims.** It is requested that a corrected filing receipt be issued.

Respectfully submitted,

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APPL NO.	FILING OR 371(c) DATE	ART UNIT	FIL FEE REC'D	ATTY.DOCKET NO	TOT CLMS	IND CLMS
10/593,281	09/18/2006	1745	900	043888-0518	20 18	2 2

CONFIRMATION NO. 7824

53080
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WASHINGTON, DC 20005-3096

FILING RECEIPT

OC000000023951719

Date Mailed: 05/18/2007

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please mail to the Commissioner for Patents P.O. Box 1450 Alexandria Va 22313-1450. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).**

Applicant(s)

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Power of Attorney: The patent practitioners associated with Customer Number **53080**.

Domestic Priority data as claimed by applicant

This application is a 371 of PCT/JP05/04442 03/14/2005

Foreign Applications

JAPAN 2004-078891 03/18/2004

If Required, Foreign Filing License Granted: 05/18/2007

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is US10/593,281

Projected Publication Date: 08/30/2007

Non-Publication Request: No

Early Publication Request: No

Title

Power System And Management Method Thereof

Preliminary Class

429

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IN THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application

Listing of Claims:

1. (Original) A power system comprising: an electrochemical device; a load device; a power generator; and a charge/discharge controller of said electrochemical device,

said electrochemical device comprising a positive electrode, a negative electrode, and a liquid electrolyte or a solid electrolyte,

said electrochemical device having a charge/discharge curve that has at least one step, a given step of said at least one step having an inflection point, a voltage corresponding to the inflection point or a point adjacent to the inflection point being set as a threshold value, and

said charge/discharge controller being configured to control charge/discharge of said electrochemical device such that the voltage of said electrochemical device approaches said threshold value.

2. (Original) The power system in accordance with claim 1, further comprising: a comparator that compares the voltage of said electrochemical device with said threshold value,

wherein based on an output of said comparator, said charge/discharge controller causes said electrochemical device to be charged when the voltage is lower than said threshold value and causes said electrochemical device to be discharged when the voltage is higher than said threshold value.

3. (Original) The power system in accordance with claim 1, further comprising: a comparator that compares the voltage of said electrochemical device with said threshold value; and a remaining capacity detector that calculates a remaining capacity of said electrochemical device based on an output of said comparator,

wherein based on an output of said remaining capacity detector, said charge/discharge controller charges said electrochemical device when the remaining capacity is less than the remaining capacity corresponding to said threshold value and discharges said electrochemical device when the remaining capacity is greater than the remaining capacity corresponding to said threshold value.

Claims 4-5 (Cancelled)

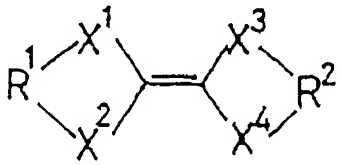
6. (Original) The power system in accordance with claim 1, wherein said charge/discharge controller controls charge/discharge of said electrochemical device such that at least a part of a difference between an amount of power generated by said power generator and an amount of power consumed by said load device is supplied or stored.

7. (Original) The power system in accordance with claim 6, wherein said charge/discharge controller further comprises a power difference determining unit that determines a difference between an amount of power generated by said power generator per unit time and an amount of power consumed by said load device per unit time, and based on an output of said power difference determining unit, said charge/discharge controller controls charge/discharge of said electrochemical device while controlling the amount of power generated by said power generator per unit time.

8. (Original) The power system in accordance with claim 1, wherein said electrochemical device is charged by utilizing regenerative energy from said load device.

9. (Original) The power system in accordance with claim 1, wherein at least one selected from said positive electrode and said negative electrode comprises a compound having a structure represented by the general formula (1):

[Chemical formula 1]



where each of R^1 and R^2 is independently a chain or cyclic aliphatic group, R^1 and R^2 may be the same or different, each of X^1 to X^4 is independently a sulfur atom, an oxygen atom or a tellurium atom, X^1 to X^4 may be the same or different, and said aliphatic group may contain one or more selected from the group consisting of an oxygen atom, a nitrogen atom, a sulfur atom, a silicon atom, a phosphorus atom and a boron atom.

10. (Original) The power system in accordance with claim 2, further comprising: a parameter detector that detects at least one parameter selected from the group consisting of charge/discharge current, temperature and internal impedance of said electrochemical device; and a field adjustor that adjusts the relation between the voltage of said electrochemical device and said threshold value based on the detected parameter.

11. (Original) The power system in accordance with claim 3, further comprising: a parameter detector that detects at least one parameter selected from the group consisting of charge/discharge current, temperature and internal impedance of said electrochemical device; and a field adjustor that adjusts the relation between the voltage or remaining capacity of said electrochemical device and said threshold value based on the detected parameter.

12. (Original) The power system in accordance with claim 3, wherein said remaining capacity detector resets the remaining capacity of said electrochemical device to a predetermined value corresponding to said threshold value when it determines the voltage of said electrochemical device to be equal to said threshold value.

13. (Original) The power system in accordance with claim 12, wherein said remaining capacity detector comprises: a step detector that detects, based on the voltage of said electrochemical device, that said electrochemical device has a remaining capacity close to a remaining capacity corresponding to said step; a current integrator that performs current integration near said step; and a corrector that corrects the remaining capacity of said electrochemical device based on a scale of the step that is determined from a current integral near said step.

14. (Original) The power system in accordance with claim 3,

wherein said remaining capacity detector comprises: a step detector that detects, based on the voltage of said electrochemical device, that said electrochemical device has a remaining

capacity close to that corresponding to said step; and a current integrator that performs current integration near said step, and

wherein said remaining capacity detector resets the remaining capacity of said electrochemical device to a predetermined value corresponding to said threshold value when it determines the rate of voltage change relative to capacity change: ΔC obtained by current integration:

$\Delta V/\Delta C$ to be equal to $\Delta V/\Delta C$ at the threshold value that has been predetermined depending on charge/discharge current.

15. (Original) The power system in accordance with claim 14, wherein said remaining capacity detector has a corrector that corrects the remaining capacity of said electrochemical device based on a scale of the step that is determined from a current integral near said step.

16. (Original) A method for managing a power system that comprises an electrochemical device, a load device, and a power generator,

said electrochemical device comprising a positive electrode, a negative electrode, and a liquid electrolyte or a solid electrolyte,

said electrochemical device having a charge/discharge curve that has at least one step, a given step of said at least one step having an inflection point, a voltage corresponding to the inflection point or a point adjacent to the inflection point being set as a threshold value, and

said method comprising controlling charge/discharge of said electrochemical device such that the voltage of said electrochemical device approaches said threshold value.

17. (Original) The method for managing a power system in accordance with claim 16, wherein said controlling charge/discharge comprises the steps of:

measuring a voltage of said electrochemical device;

comparing the measured voltage with said threshold value; and

charging said electrochemical device when the measured voltage is lower than said threshold value and discharging said electrochemical device when the measured voltage is higher than said threshold value.

18. (Original) The method for managing a power system in accordance with claim 16, wherein said controlling charge/discharge comprises the steps of:

measuring a voltage of said electrochemical device;

comparing the measured voltage with said threshold value;

calculating a remaining capacity of said electrochemical device based on said compared result; and

charging said electrochemical device when the remaining capacity is less than the remaining capacity corresponding to said threshold value and discharging said electrochemical device when the remaining capacity is greater than the remaining capacity corresponding to said threshold value.

19. (Original) The method for managing a power system in accordance with claim 18, further comprising the step of resetting the remaining capacity of said electrochemical device to a predetermined value corresponding to said threshold value when the voltage of said electrochemical device is determined to be equal to said threshold value.

20. (Original) The method for managing a power system in accordance with claim 18, further comprising the step of performing current integration near said threshold value and resetting the remaining capacity of said electrochemical device to a predetermined value corresponding to said threshold value when the rate of voltage change relative to capacity change: ΔC obtained by the current integration: $\Delta V/\Delta C$ is determined to be equal to $\Delta V/\Delta C$ at said threshold value that has been predetermined depending on charge/discharge current.